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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,032	10/30/2003	Itzhak Bal-Yona	1527OUS	6034

7590

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EXAMINER

LUU, MATTHEW

ART UNIT

PAPER NUMBER

2676

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/696,032

Applicant(s)

BAL-YONA ET AL.

Examiner

LUU MATTHEW

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/3/04 & 3/29/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 8 is objected to because of the following informalities:

Claim 8, line 6, "matrix the unit cell" should be - - matrix unit cell --.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Topelberg (6,836,259) in view Tanabe (EP 0998171).

Regarding claim 1, Topelberg discloses (Fig. 1A) a multi-image display system comprising:

a transparent indicia carrier (a transparent carrying element 12 and picture element 26) upon which are provided two or more image (picture parts 28, 30, 32 and 34); and

means (controller 36) for applying an external stimulus to selectively allow light to highlight parts (28-34) of the indicia carrier (12 and 26) that belong to a single image

(30) of the two or more images (28-34); whereby upon application of the external stimulus a single image (30) is displayed. See column 3, lines 15-54.

The only difference between the disclosure of Topelberg and the claimed invention is that the claim 1 requires "interlaced images".

However, Tanabe discloses (Figs. 4-6) a multi-image display system for selectively displaying two interlaced images (STOP and PLAY). See column 4, line 57 to column 5, line 7.

Therefore, it would have been obvious to a person of ordinary skill in the art to use the interlaced images of Tanabe into the multi-image display system of Topelberg to provide more practical functions such as visibility and also aesthetical appealing function.

Regarding claim 2, Topelberg discloses (Figs. 4 and 6) a multi-image display system (50) comprising:

- a stationary electronic grating (Fig. 4, conductive fibers 54; or Fig. 6, first system electrodes 84, 86, 88 and 90 and second system electrodes 92, 94, 96 and 98);

- a transparent indicia carrier (a transparent carrying element 12 and picture element 26) upon which are provided two or more image (picture parts 28, 30, 32 and 34); wherein the grating (Fig. 6) comprises individually addressable areas corresponding to the lines of printing (28-34) on the indicia carrier (26).

Topelberg further discloses (Fig. 1) wherein each of the areas (30-34) comprises a pair of electrodes (front electrode 14 and back electrode 16), and an active material

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(13) located in the space between the electrodes (14 and 16); wherein upon application of a stimulus to the pair of electrodes (14 and 16), a property of the active material (13) changes from one state to another (Column 3, lines 48-54) (See also Fig. 7A).

The only difference between the disclosure of Topelberg and the claimed invention is that the claim 2 requires "interlaced images".

However, Tanabe discloses (Figs. 4-6) a multi-image display system for selectively displaying two interlaced images (STOP and PLAY). See column 4, line 57 to column 5, line 7.

Therefore, it would have been obvious to a person of ordinary skill in the art to use the interlaced images of Tanabe into the multi-image display system of Topelberg to provide more practical functions such as visibility and also aesthetical appealing function.

Regarding claim 3, it is obvious to the person of ordinary skill in the art to recognize that, when the electric signal is applied to the electrodes (Fig. 1, electrodes 20 and 15), the optical transparency of the active material (13) will change from an opaque state to a transparent state or vice versa. See column 3, lines 48-54.

Regarding claim 4, note the rejection as set forth above with respect to claim 3. Tanabe further discloses the property is the electroluminescence (EL) (Column 2, lines 4-6).

Regarding claim 5, Tanabe discloses an AC electric field is applied between the electrodes (15 and 16) (Column 4, line 57 to column 5, line 13).

Regarding claim 6, note the rejection as set forth above with respect to claim 4. Tanabe further discloses the property is the electroluminescence (EL) (Column 2, lines 4-6).

Regarding claim 10, Topelberg discloses (Fig. 6) a control circuit (36) to apply the stimulus in a predetermined manner (Column 3, lines 52-54, "a programmed sequence").

Regarding claim 11, Topelberg discloses (Fig. 6) the grating (84-98) comprises individually addressable areas corresponding to the lines of printing (28-34) on the indicia carrier (26). Since Topelberg teaches "a desired optical effect such as animation may be achieved by activating the EOA zones in a programmed sequence", it would have been obvious that the set of all the areas of the grating corresponding to all the lines can be displayed simultaneously, i. e., all four of the pictures parts (28, 30, 32 and 34) can be all displayed simultaneously.

Furthermore, Tanabe also teaches "multiple text or graphics may be displayed independently or simultaneously" (Column 9, lines 41-42).

Regarding claim 12, Topelberg teaches "a desired optical effect such as animation may be achieved by activating the EOA zones in a programmed sequence". Furthermore, Tanabe also teaches "multiple text or graphics may be displayed independently or simultaneously" (Column 9, lines 41-42).

Claim Rejections - 35 USC § 103

Claims 7- 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Topelberg in view of Tanabe as applied to claim 2 above, and further in view of Wang (EP 1154396).

Regarding claim 7, Topelberg fails to disclose the printing on the indicia carrier is in the form of parallel lines and the grating comprises an area of parallel strips.

However, Wang discloses (Fig. 3) the printing on the indicia carrier is in the form of parallel lines and corresponding individual addressed areas of the grating (1") comprises an array of parallel strips.

It would have been obvious to the person of ordinary skill in the art to use the parallel lines indicia and parallel addressing strips configuration of Wang into the multi-image display system of Topelberg, as modified by Tanabe, to provide a multi-function and super-thin display system, wherein every sub-lightening portion constitutes a brighten figure to form a display showing various expressions in substantially the same area and to show various colorful effects within the same expression.

Regarding claim 8, Wang discloses (Fig. 1) the printing of the indicia carrier (10) is in the form of a two-dimensional matrix of pixels (11, 12 and 13), wherein each pixel comprises a number of subpixels (11a, 12a and 13a) corresponding to the number of distinct images that comprise the interlaced image (Fig. 2), and the corresponding individually addressable area of the grating (Fig. 3, element 1") comprise a two-dimensional matrix unit cell of which has the same dimensions as that of the pixel, wherein each unit cell (11, 12 and 13) is divided into separately addressable subcells (11a, 12a and 13a) corresponding to the subpixels (21a, 22a and 23a), and wherein the subcells (11a, 12a and 13a) are arranged with the same geometric relationship that exists between the subpixels (21a, 22a and 23a).

Regarding claim 9, Wang discloses (Fig. 3) an array of light (diodes 1") to back-light the image.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Haynes (6,034,481) discloses electroluminescent display with independently addressable picture elements.

-Stephenson (6,262,697) discloses a display for presenting selected images to a viewer.

-Mueller et al (6,507,413) disclose a method of displaying an image on a display device having first and second sides.

-Aihara et al (5,754,268) disclose a display device in which an area corresponding to electrodes placed one upon another is arranged to change into a light-transmissive state by applying a potential difference between the electrodes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUU MATTHEW whose telephone number is (571) 272-7663. The examiner can normally be reached on Flexible Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BELLA MATTHEW can be reached on (571) 272-7663. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Luu



MATTHEW LUU
PRIMARY EXAMINER